

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-11 (canceled)

Claim 12 (previously presented): The process according to claim 24, wherein the initiator comprises a chlorosilane, an alkoxysilane, a disulphide or a thiol group.

Claim 13 (previously presented): The process according to claims 24 or 12 wherein the initiator comprises a group chosen from azo groups, peroxo groups, or a ketone group in conjugation with an aromatic system.

Claim 14 (previously presented): The process according to claim 13, wherein the initiator comprises a group chosen from aromatic ketones or aromatic ketones containing sulphur.

Claims 15-23 (canceled)

Claim 24 (currently amended): A process for the production of a polyfunctional copolymer monolayer, comprising an assembly of single copolymer chains attached to a surface wherein each polymer chain comprises a multitude of identical or different units carrying one or more functional groups which allow an interaction of the polymer chain with a sample or probe molecule, comprising the steps of:

a) immobilizing a monolayer of radical polymerization initiators on said surface to produce an initiated surface, wherein said initiators comprise one or more functional groups for linkage to the surface and subsequent polymerization reactions on said initiated surface;

b) initiating polymerization reactions on said initiated surface in the presence of (a) a first set of identical or non-identical monomers, each of which comprise at least one functional group which can interact with a sample or probe molecule and at least one C-C double bond, and (b) a comonomer containing at least one C-C double bond, and

c) growing polymer chains from said initiated surface in the presence of said monomers by a radical polymerization chain reaction involving reaction of the C-C double bond of said monomer and comonomer ~~from said initiated surface in the presence of said monomers;~~

wherein the assembly of the polymer chains produced in step c) linked to said surface results in a polyfunctional copolymer monolayer.